FIG. 1

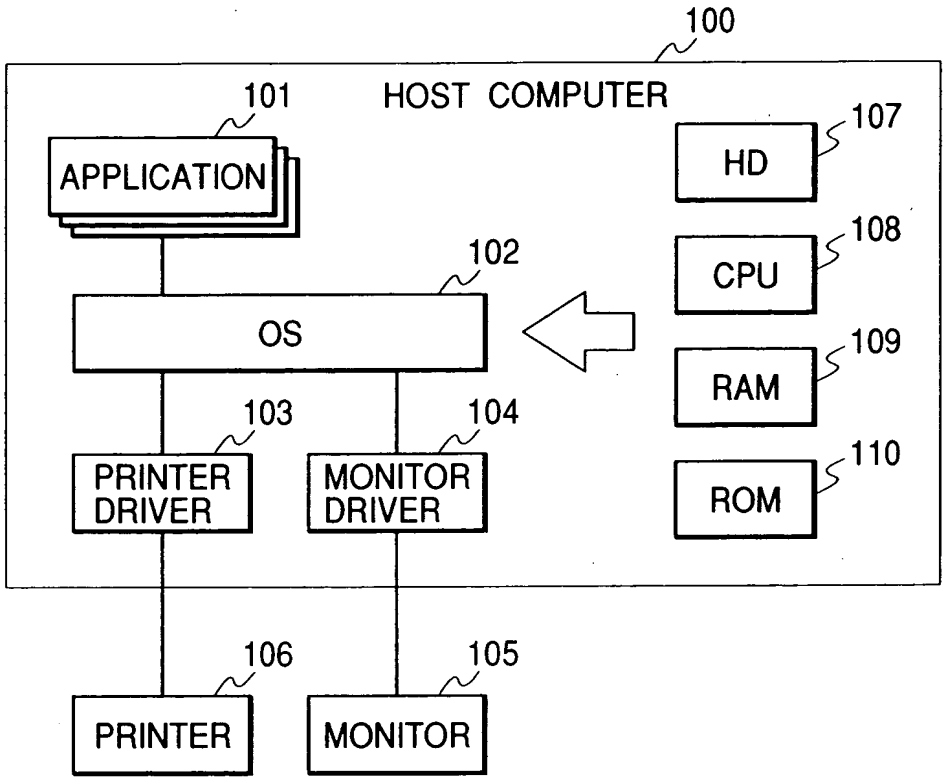

100
HOST COMPUTER
101
APPLICATION
107
HD
108
CPU
102
OS
109
RAM
103
104
PRINTER DRIVER
MONITOR DRIVER
110
ROM
106
105
PRINTER
MONITOR

FIG. 2

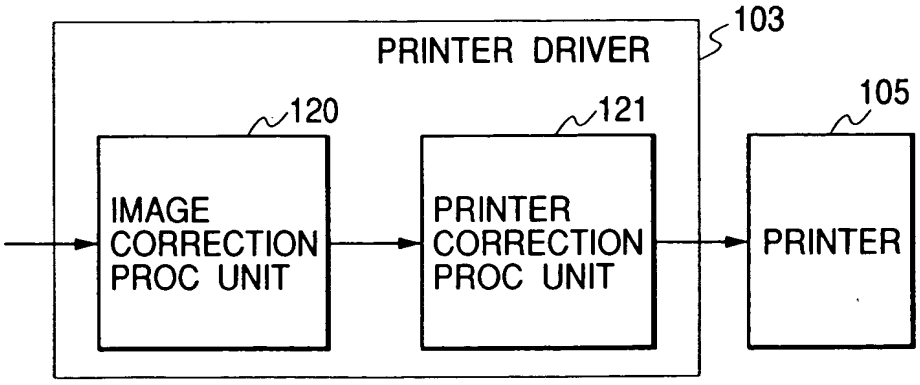

PRINTER DRIVER
103
120
121
105
IMAGE CORRECTION PROC UNIT
PRINTER CORRECTION PROC UNIT
PRINTER

FIG. 3

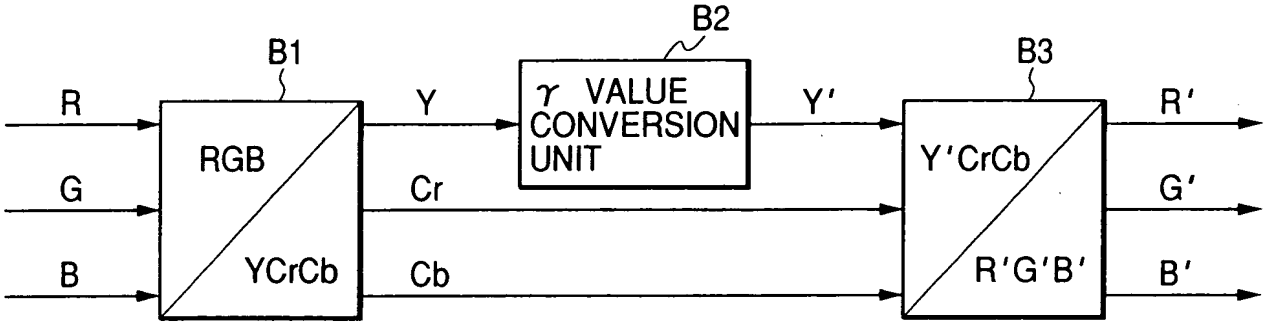

B1
B2
B3
R
G
B
RGB
YCrCb
Y
Cr
Cb
γ VALUE CONVERSION UNIT
Y'
Y'CrCb
R'G'B'
R'
G'
B'

FIG. 4

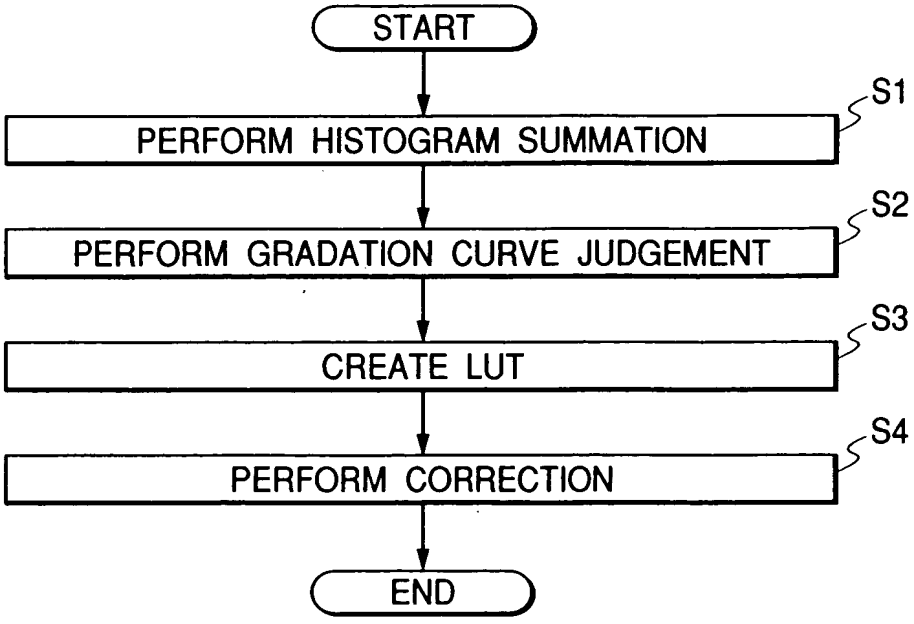

START
PERFORM HISTOGRAM SUMMATION
S1
PERFORM GRADATION CURVE JUDGEMENT
S2
CREATE LUT
S3
PERFORM CORRECTION
S4
END

FIG. 5

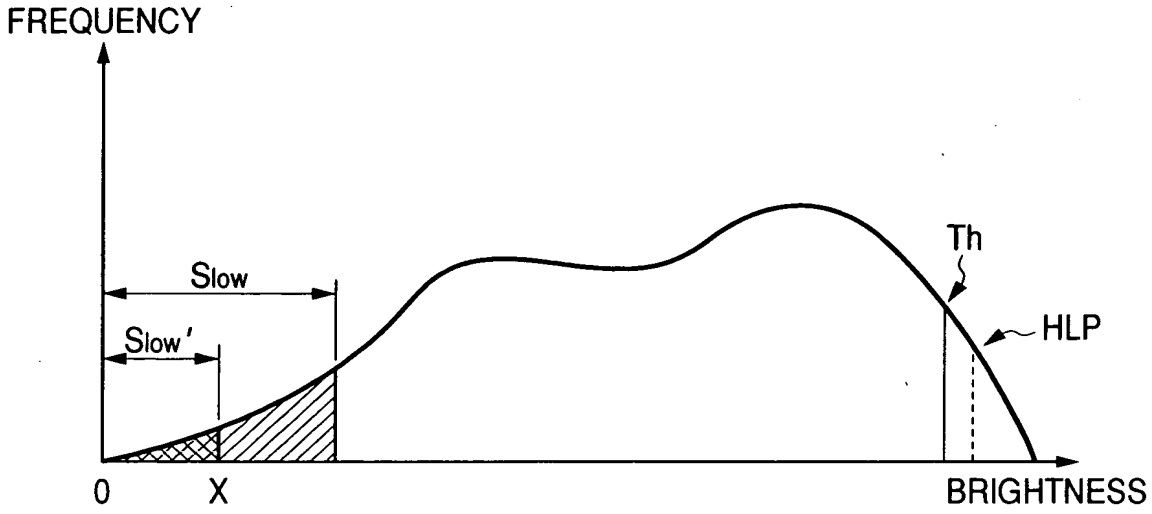

FREQUENCY
Slow
Slow'
Th
HLP
0
X
BRIGHTNESS

FIG. 6

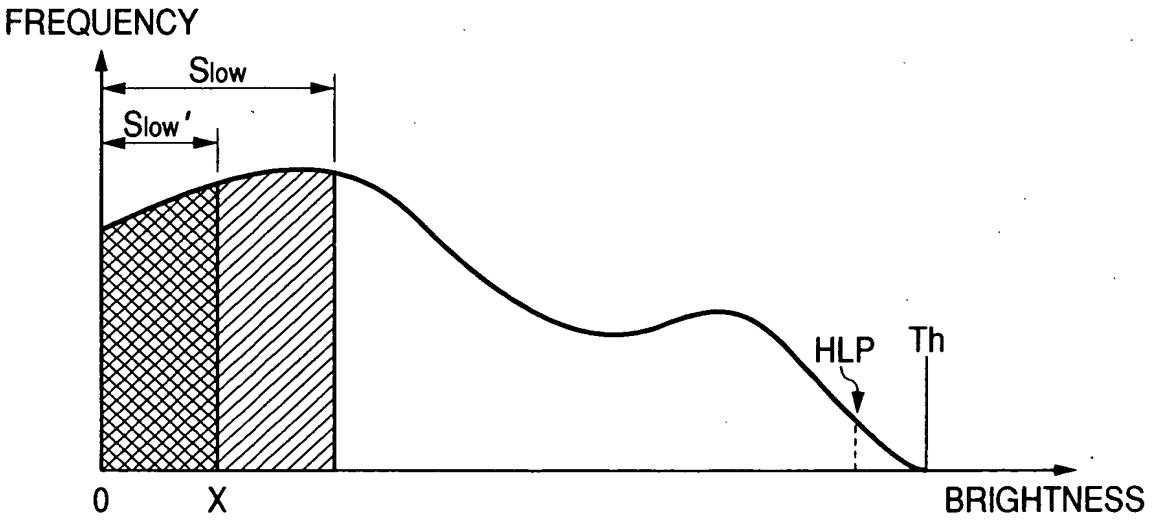

FREQUENCY
Slow
Slow'
HLP
Th
0
X
BRIGHTNESS

FIG. 7

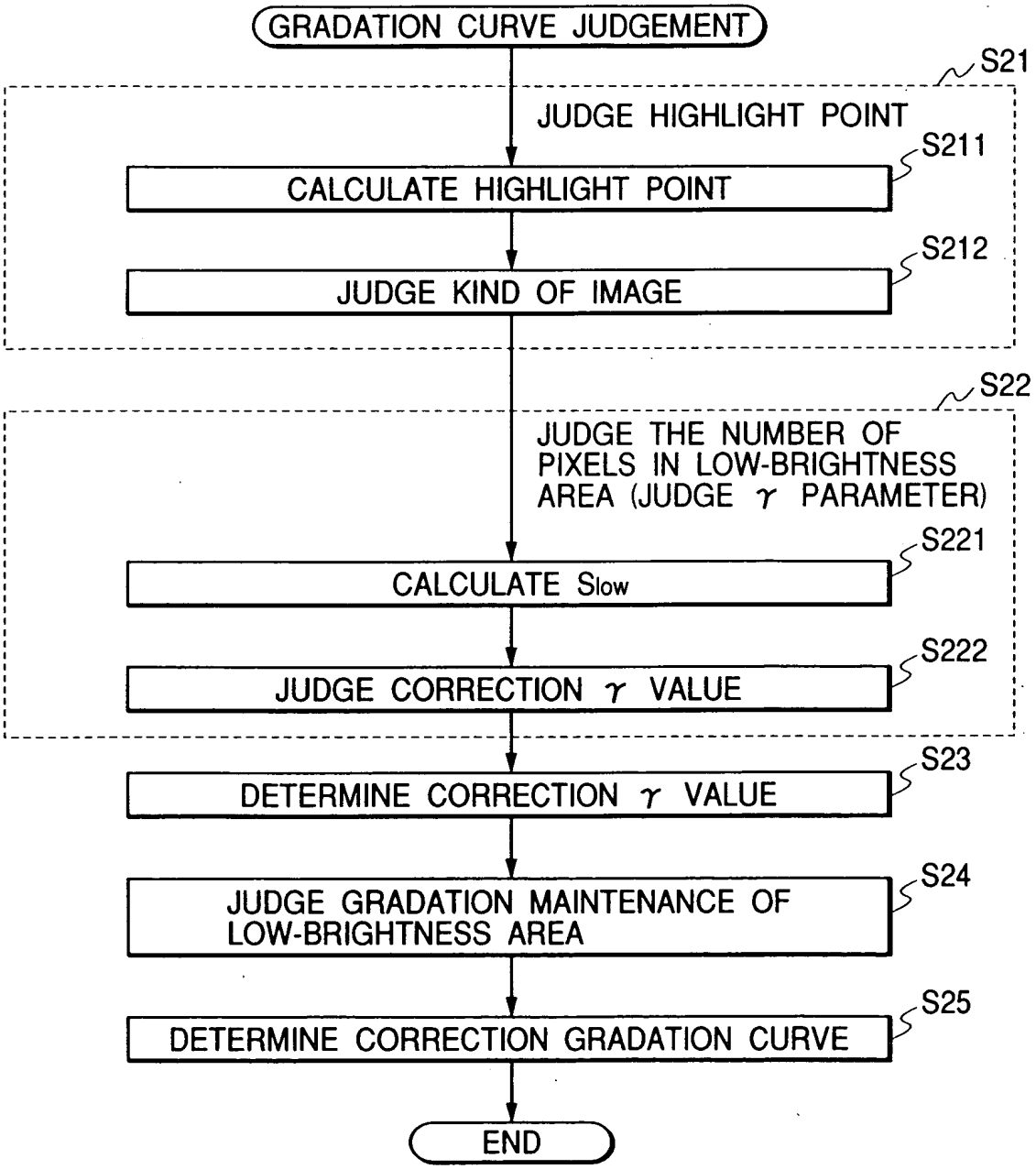

GRADATION CURVE JUDGEMENT
S21
JUDGE HIGHLIGHT POINT
S211
CALCULATE HIGHLIGHT POINT
S212
JUDGE KIND OF IMAGE
S22
JUDGE THE NUMBER OF PIXELS IN LOW-BRIGHTNESS AREA (JUDGE γ PARAMETER)
S221
CALCULATE Slow
S222
JUDGE CORRECTION γ VALUE
S23
DETERMINE CORRECTION γ VALUE
S24
JUDGE GRADATION MAINTENANCE OF LOW-BRIGHTNESS AREA
S25
DETERMINE CORRECTION GRADATION CURVE
END

FIG. 8

KIND OF PIXEL	Slow	OPTIMUM γ VALUE
LIGHT	0—30	0.8
	31—60	1
	61—	1.2
DARK	0—15	0.8
	16—30	1
	31—	1.2

FIG. 9

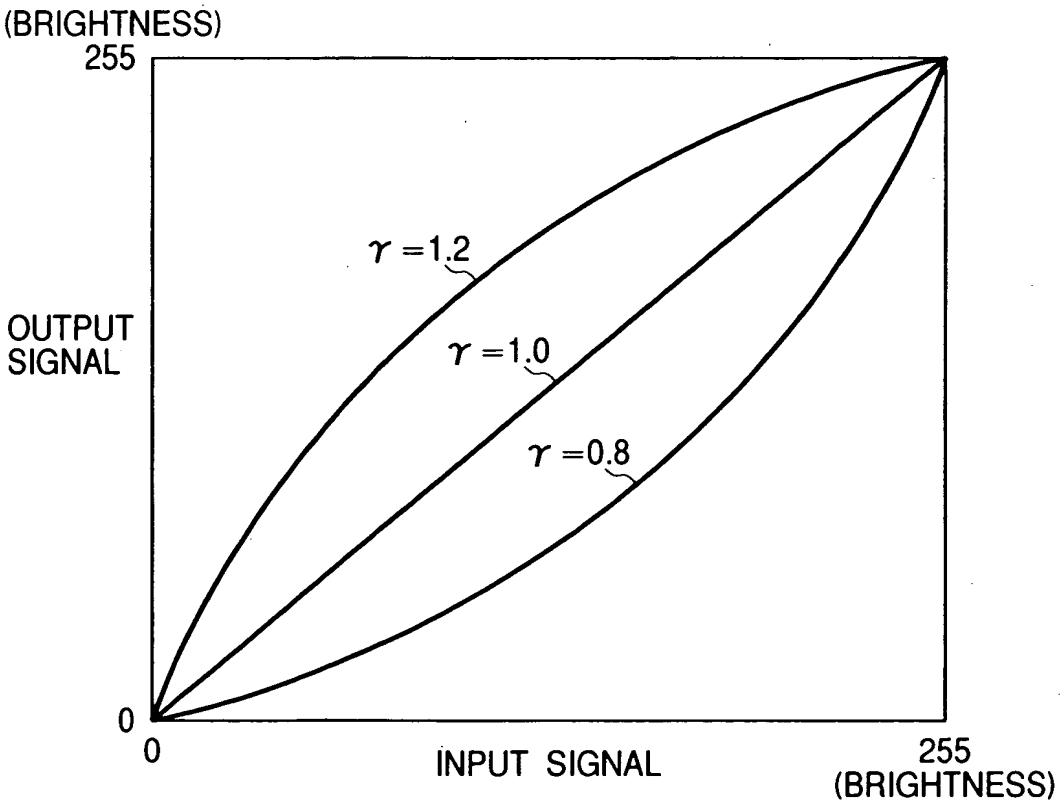


FIG. 10

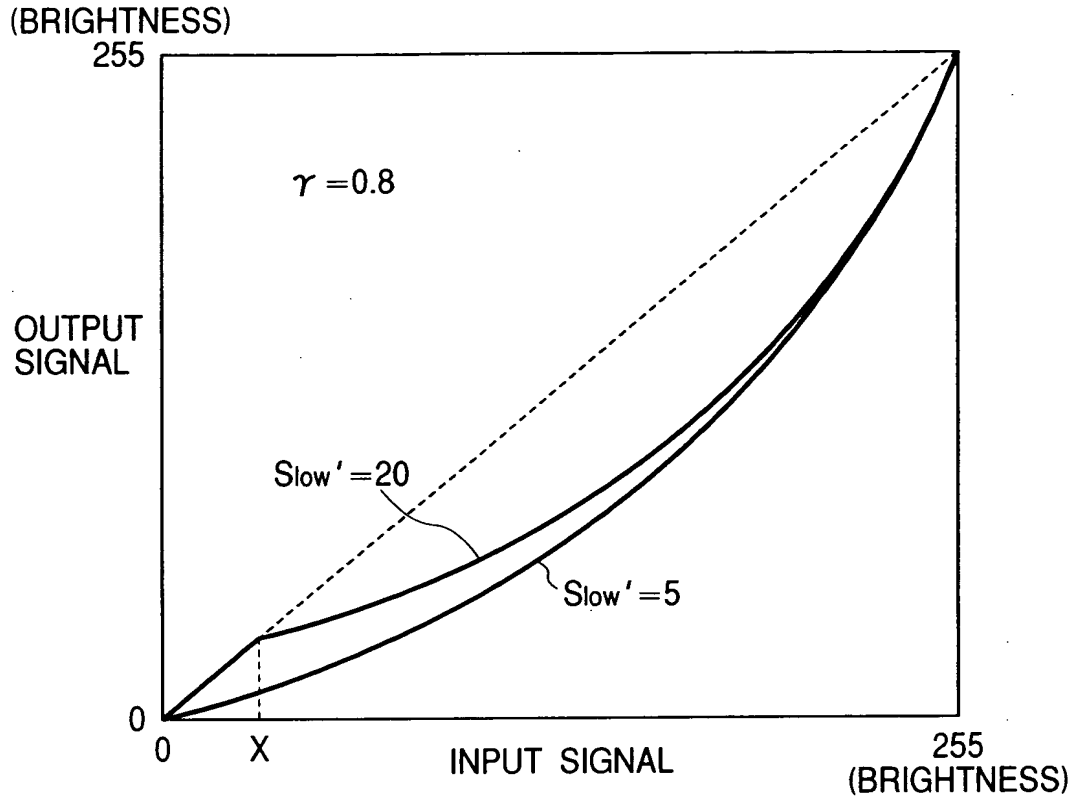

(BRIGHTNESS)
255
γ =0.8
OUTPUT SIGNAL
Slow' =20
Slow' =5
0
0
X
INPUT SIGNAL
255
(BRIGHTNESS)

FIG. 11

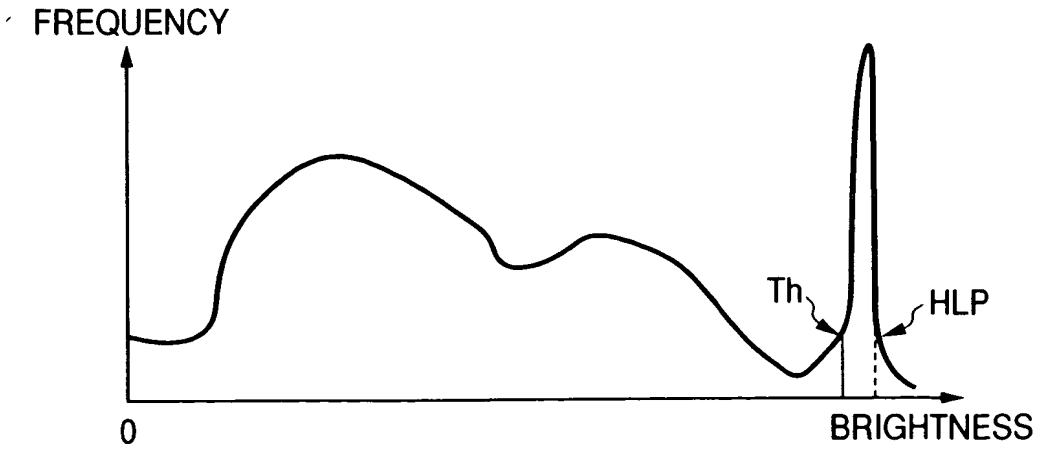

FREQUENCY
Th
HLP
0
BRIGHTNESS

FIG. 12

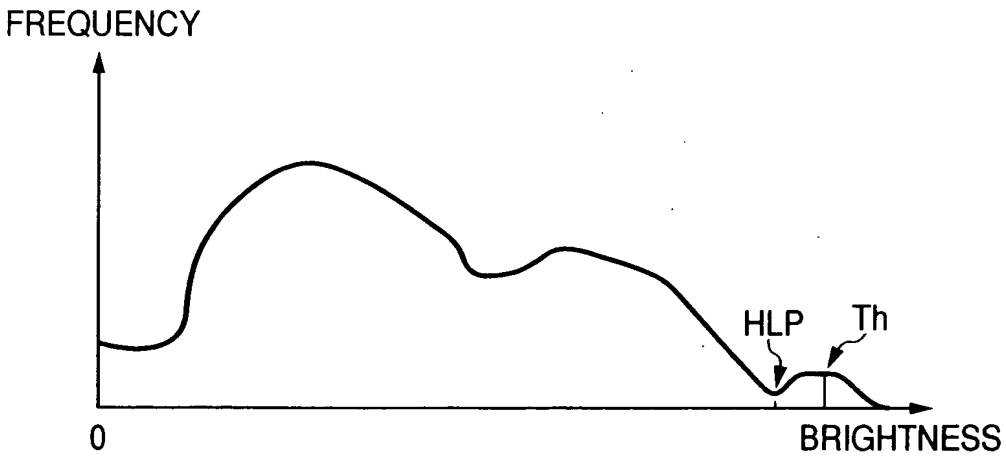


FIG. 13

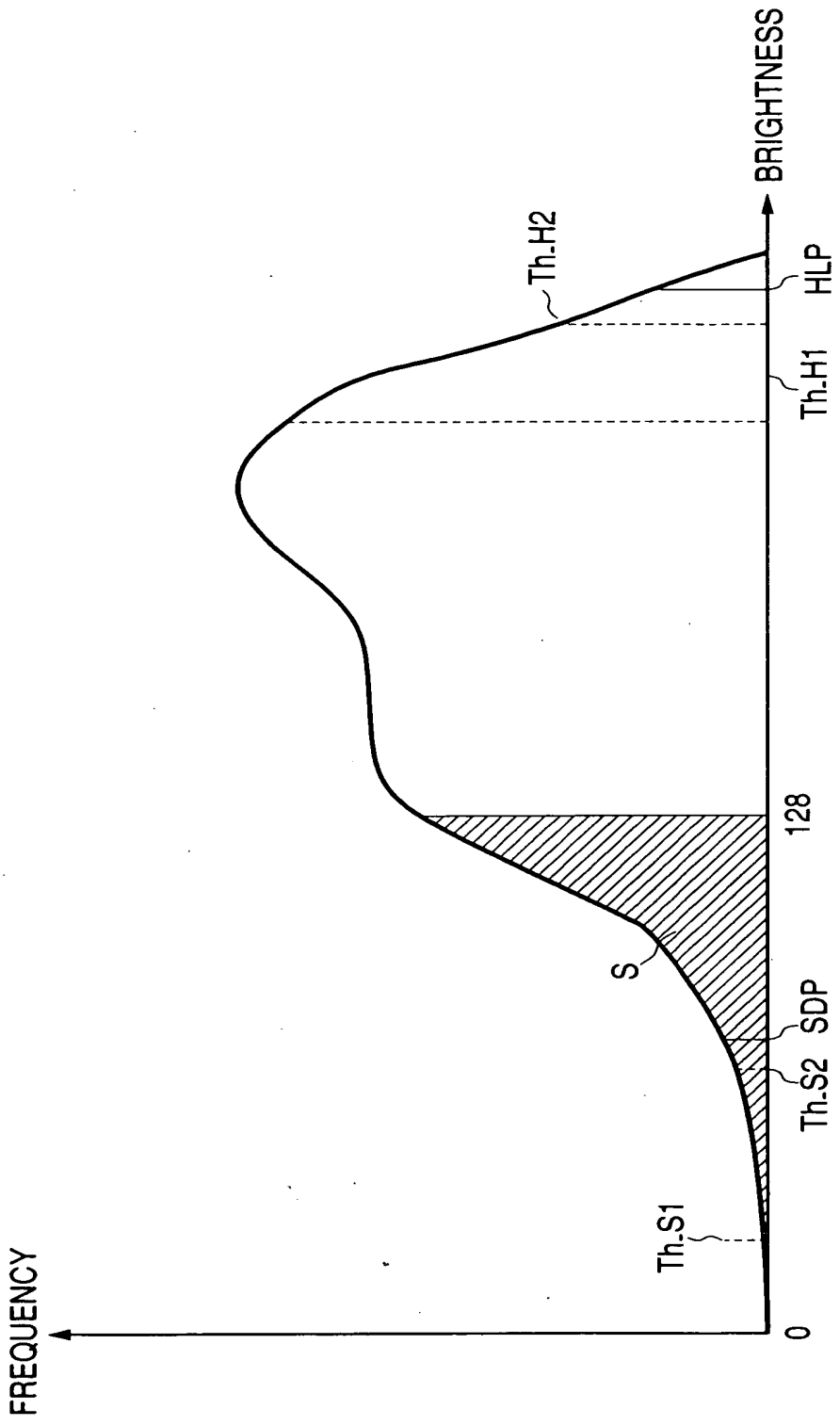


FIG. 14

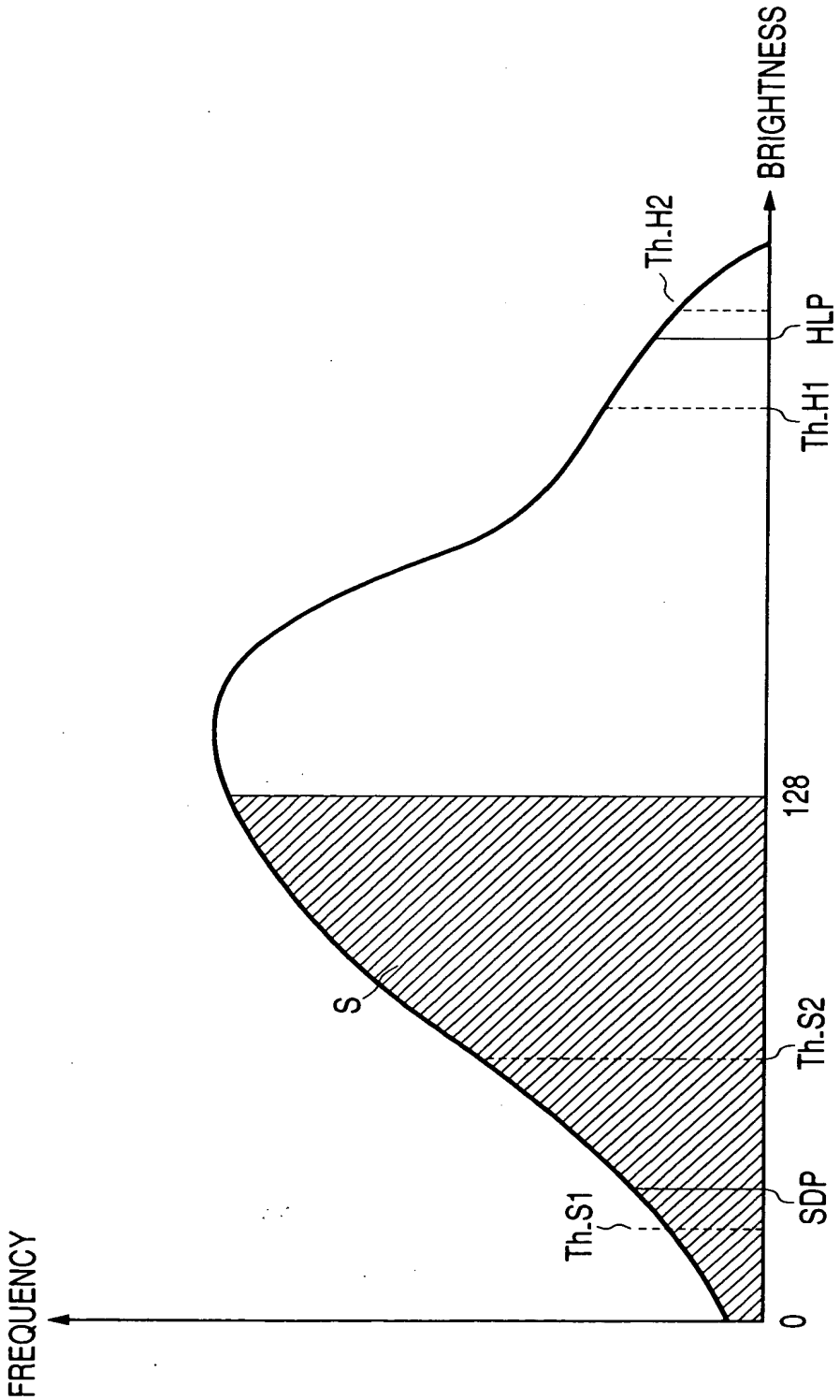


FIG. 15

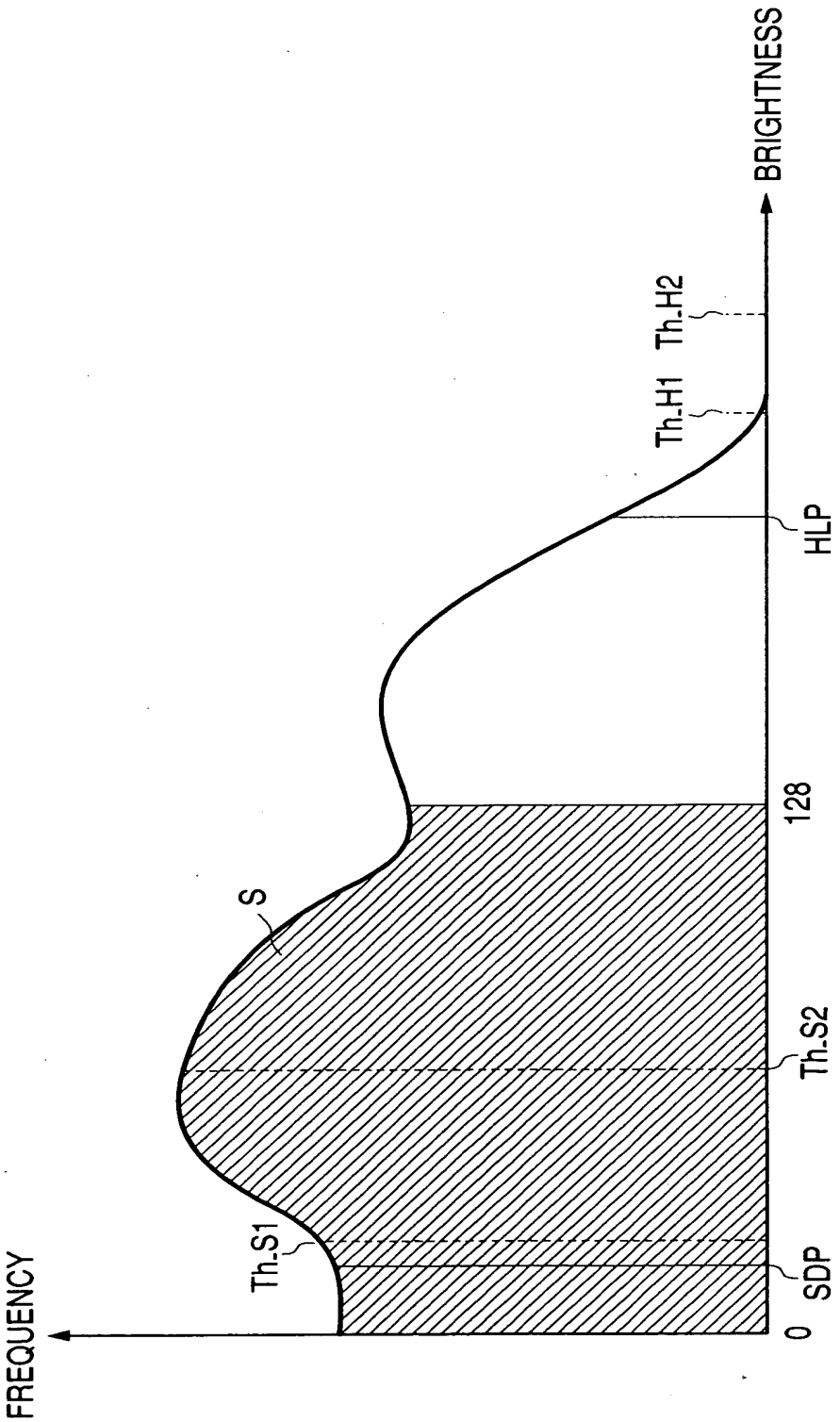


FIG. 16

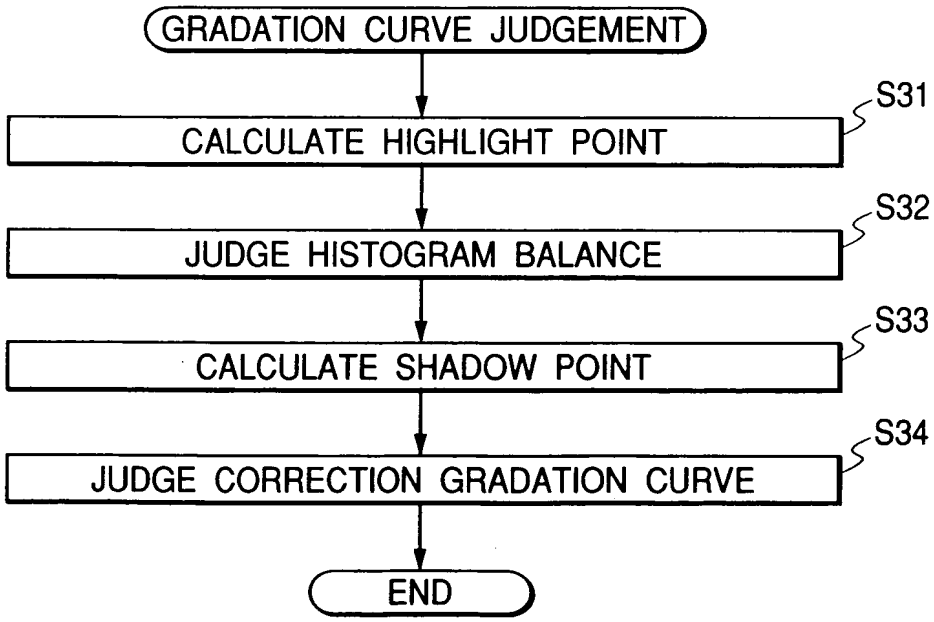

GRADATION CURVE JUDGEMENT
CALCULATE HIGHLIGHT POINT
S31
JUDGE HISTOGRAM BALANCE
S32
CALCULATE SHADOW POINT
S33
JUDGE CORRECTION GRADATION CURVE
S34
END

FIG. 17

HLP	BALANCE DEGREE OF HISTOGRAM (S128)	SDP	CORRECTION GRADATION CURVE
−200	0−60	0−10	HIGH-BRIGHTNESS AREA OF 200 OR MORE IS CUT
		11−30	HIGH-BRIGHTNESS AREA OF 200 OR MORE IS CUT, AND γ0.8 IS MULTIPLIED
		31−	HIGH-BRIGHTNESS AREA OF 200 OR MORE, AND LOW-BRIGHTNESS AREA OF 30 OR LESS ARE CUT
	61−100	0−5	HIGH-BRIGHTNESS AREA OF 200 OR MORE IS CUT, AND γ1.2 IS MULTIPLIED
		6−	HIGH-BRIGHTNESS AREA OF 200 OR MORE IS CUT
201−230	0−30	0−10	γ0.8 CURVE
		11−	HIGH-BRIGHTNESS AREA OF 230 OR MORE IS CUT, AND γ0.8 IS MULTIPLIED
	31−60	0−5	NO CORRECTION IS PERFORMED
		6−20	S-CURVE
		21−	LOW-BRIGHTNESS AREA OF 20 OR LESS IS CUT
	61−100	0−15	HIGH-BRIGHTNESS AREA OF 230 OR MORE IS CUT
		16−	HIGH-BRIGHTNESS AREA OF 230 OR MORE IS CUT, AND γ0.8 IS MULTIPLIED
231−255	0−15	0−30	γ0.9 CURVE
		31−50	γ0.8 CURVE
		51−	LOW-BRIGHTNESS AREA OF 50 OR LESS IS CUT
	16−50	0−8	NO CORRECTION IS PERFORMED
		9−20	S-CURVE
		21−	LOW-BRIGHTNESS AREA OF 20 OR LESS IS CUT
	51−100	0−10	γ1.2 CURVE
		11−	γ1.1 CURVE

FIG. 18

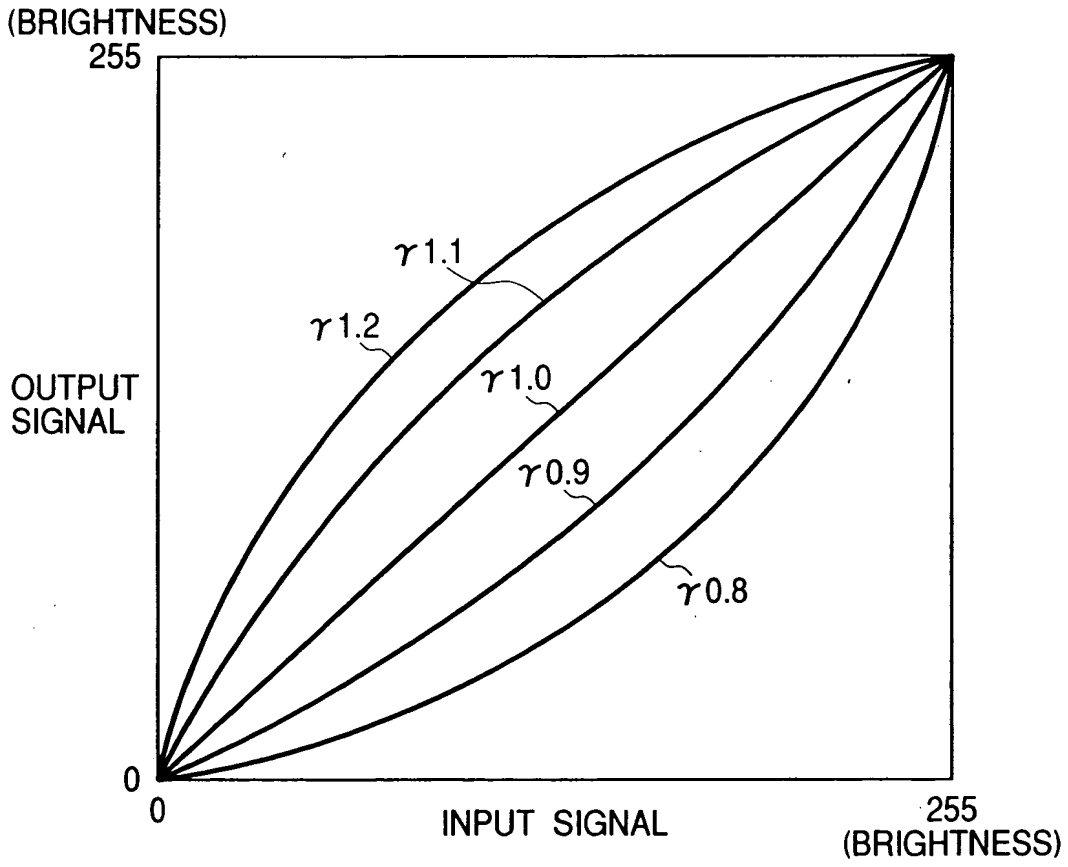

(BRIGHTNESS)
255
OUTPUT SIGNAL
γ1.1
γ1.2
γ1.0
γ0.9
γ0.8
0
0
INPUT SIGNAL
255
(BRIGHTNESS)

FIG. 19

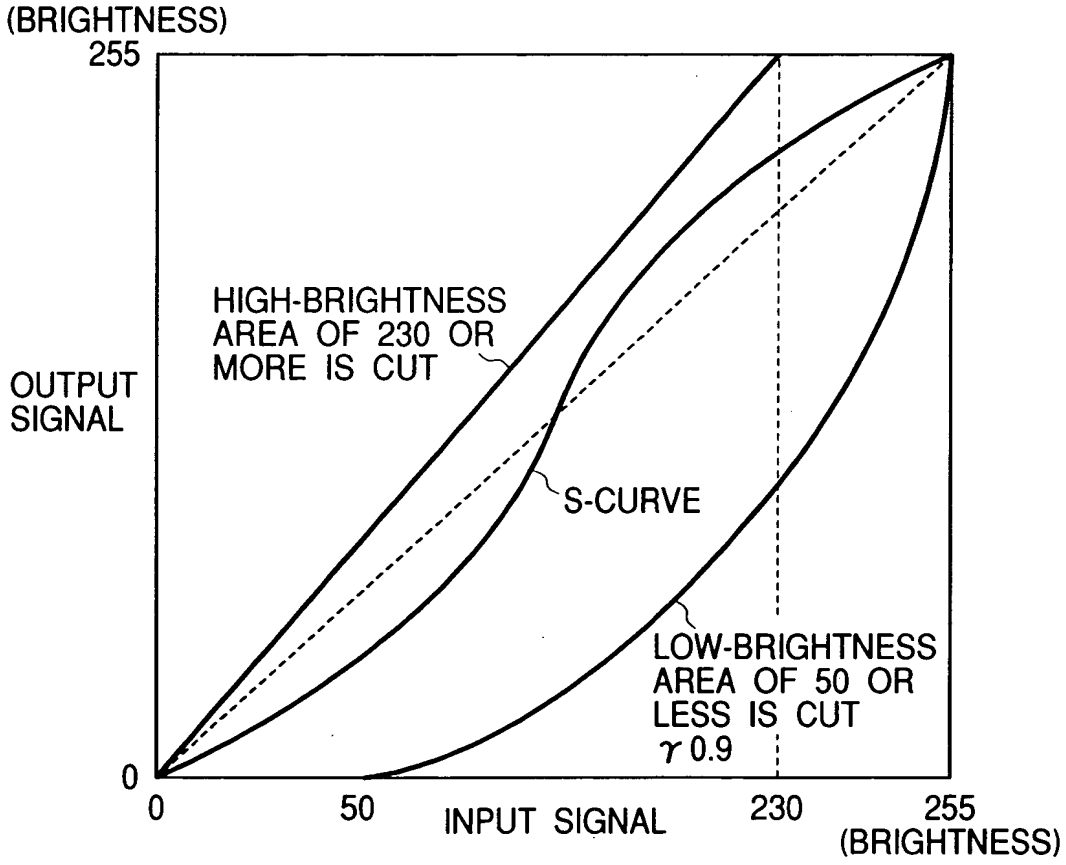
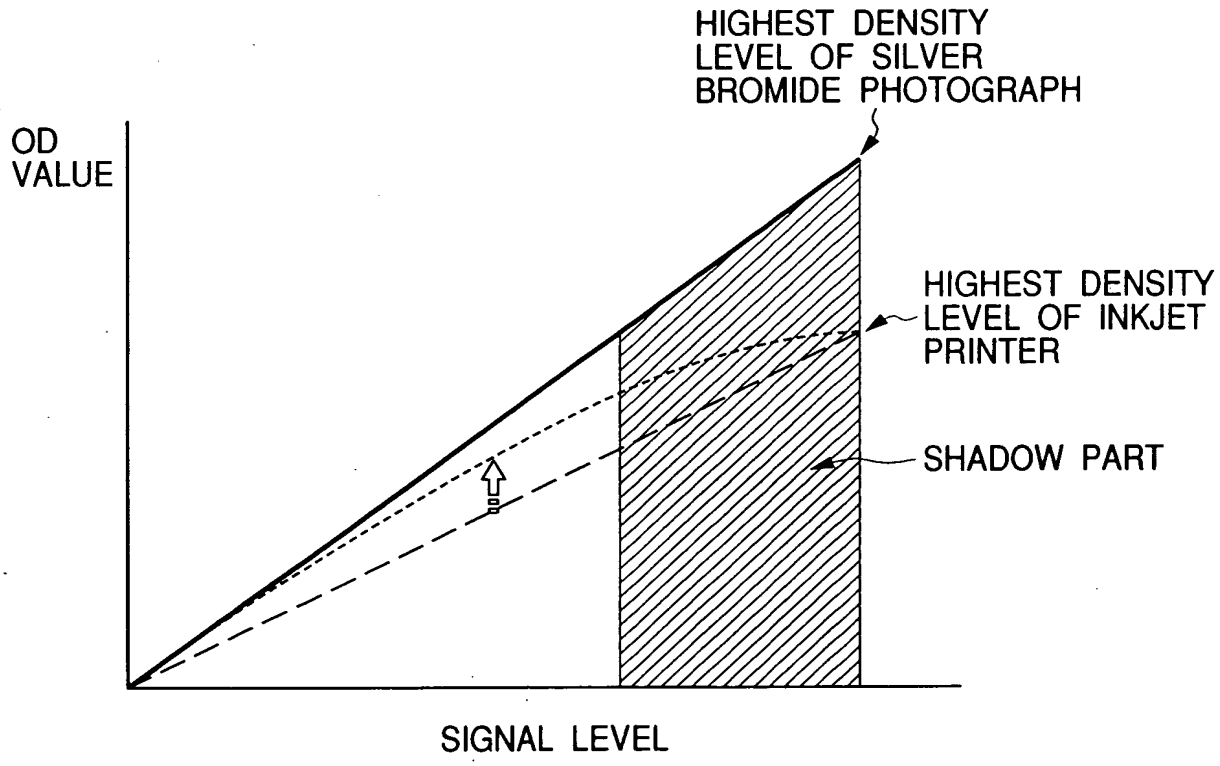

(BRIGHTNESS)
255
OUTPUT SIGNAL
HIGH-BRIGHTNESS AREA OF 230 OR MORE IS CUT
S-CURVE
LOW-BRIGHTNESS AREA OF 50 OR LESS IS CUT
γ 0.9
0
0
50
INPUT SIGNAL
230
255
(BRIGHTNESS)

FIG. 20


HIGHEST DENSITY
LEVEL OF SILVER
BROMIDE PHOTOGRAPH
OD
VALUE
HIGHEST DENSITY
LEVEL OF INKJET
PRINTER
SHADOW PART
SIGNAL LEVEL